

## **Standardized Interim Progress Report**

### **A. Project Identifiers**

- 1) Award Number: NA16FX1413
- 2) Grant Program/CFDA#: Marine Mammal Data Program/SSLRI
- 3) Name of Recipient Organization: University of Alaska-Southeast
- 4) Principal Investigator: Janice M. Straley
- 5) Project Title: Investigations of Steller Sea Lion Predation by Killer Whales in Southeastern Alaska
- 6) Funding: Federal: \$210,774 Match: \$0
- 7) Award Period: From: July 1, 2001 through June 30, 2004
- 8) Period Covered by this Report: From January 1, 2002 to June 30, 2002

### **B. Project Summary**

Studies of killer whale predation on declining Steller sea lion populations have suggested that killer whales may have contributed to the decline and that predation is preventing recovery. However, a lack of information on killer whales exists for many areas of Alaska. Killer whale population numbers and the proportion of that population that eat marine mammals are needed to fully assess this situation. We propose to study killer whale predation rates in southeastern Alaska, where Steller sea lion numbers are increasing. The population dynamics of Steller sea lions that live in southeastern Alaska may be similar to what existed historically in western Alaska, where Steller sea lion numbers have declined dramatically since the 1970s. The project goals will be to 1) provide observational data on killer whale predation upon an increasing Steller sea lion population and 2) collect acoustic recordings to determine the structure and composition of killer whale calls at the time of kills. The primary objective will be to compare data collected during this study with data from concurrent studies in the Gulf of Alaska and Aleutian Islands conducted by the North Pacific Universities Marine Mammal Research Consortium (NPUMMRC). NPUMMRC will use these data in mathematical models of killer whale predation by region in Alaska to better understand the role of predation in the decline and recovery of Steller sea lions.

### **C. Summary of progress and Results**

- 1) For each objective, describe tasks scheduled for the reporting period.
  - a. Fieldwork in Jan to May using small vessels to collect photographs of killer whales.
  - b. Record vessel survey times and tracks lines to calculate effort.
  - c. Collect sighting information and establish a database for collecting data from the killer whale sighting network.
  - d. Acoustic methods used to locate and track killer whales.
  - e. Behavioral observations of predation events and collection of prey remains.

- f. Coordinate data effort with NPUMMRC.
- 2) Describe activities undertaken to achieve scheduled tasks (follow tasks outlined from 1) above).
- a. Fieldwork consisting of 39 vessel surveys was conducted 1 Jan to 31 May 2002. Vessel survey time searching for killer whales was 99.2 hrs and track lines totaled 692.5nm. These surveys resulted in two encounters and 26 groups of killer whales reported via the sighting network in Sitka Sound during this same time period.
  - b. An extensive sighting network was established region wide (southeastern Alaska). This included a 'killer whale hot line' cell phone, notices at boat harbors throughout southeastern Alaska, VHF radio calls, public service radio announcements and newspaper advertising. The Coast Guard Air Station Sitka and buoytender MAPLE participated by calling in sightings. Air taxis called in sightings. Alaska Department of Fish and Game participated by calling in sightings and taking calls from fishermen without access to a cell phone. The fishing community of southeastern Alaska turned in sightings on a regular basis; workers on the Alaska Marine Highway ferries called in sightings and tugboats traveling between the smaller communities were regular callers. University of Alaska graduate student, Jamie Womble, who flew on a monthly basis throughout the fall, winter and spring, reported any killer whales that were sighted near sea lion rookeries and haulouts. This sighting network resulted in 79 groups of killer whale reported from Dixon Entrance to the south to Lynn Canal to the north.
  - c. The permanent hydrophone listening station in Sitka Sound is not yet operational. This was scheduled for late 2001 and completion is now forecast for summer 2002. There was a buzz in the hydrophone and water clarity needed to improve for diving. Acoustic monitoring was conducted once when killer whales were reported but not observed by the research team.
  - d. One predation event was observed.
  - e. UAS PI Straley met and coordinated data efforts with NPUMMRC researcher Dena Matkin, working in Glacier Bay and Icy Strait in June 02. PI continued coordinating efforts with other NPUMMRC researchers conducting similar predation studies in western Alaska.
- 3) If there were changes to the goals/objectives during the reporting period, please detail the circumstance and nature of change.  
There were no changes to the goals or objectives during this period.
- 4) Describe results and/or specific products (i.e., publications, data, technology, web site updates prepared during the reporting period. Attach copies of publications or reference publications.  
No products have resulted thus far from this research. The data gathered thus far is reported in 2) a-e above.

#### D. Problems

- 1) Explain circumstances of problems that prevented completion of a scheduled task. Describe any consequences resulting from inability to complete a given task, i.e. need for time extension, shortage of funds, budget revision.
  - Vessel surveys-surveys were not always conducted twice a week but at least once a week, sometimes three times a week.
  - Killer whales when reported via the sighting network were very difficult to find.
  - The permanent acoustic listening station had difficulty shipping necessary equipment after the September 11, 2001 situation which delayed construction and once constructed sea conditions have prevented further investigations of the buzz in the hydrophone.
  - There has been a change in the distribution of herring in Sitka Sound from previous years. Herring for the past 15 years have come into Eastern Channel, just south of Sitka during the fall and winter. Following the herring were Steller sea lions and killer whales looking for sea lions to eat. This was the basic premise of my proposal based on 15 years of observations of the interactions between these species during the fall and winter. Essentially, the predators would come within fairly easy working distance to Sitka. But something has changed in Sitka Sound this year. There are herring in Sitka Sound but in a different area, further away and more difficult to survey. This may change the methodology for survey next fall dependent upon herring movements.
- 2) Describe what actions/activities will be taken to resolve the problem.

I have done two things to try and resolve the shift in herring/seal lion distribution in Sitka Sound in conjunction with my survey methodology.

  - a. I modified and extended my survey area to north of Sitka where there were more sea lions, weather permitting.
  - b. I have tentatively received additional funding from NPUMMRC to increase vessel charter costs.
- 3) Explain special problems or differences between budgeted and actual expenditures.

My expenditures thus far have been fairly close to my projected budget.

Prepared by: Jan Straley  
Principal Investigator

Date: July 7, 2002